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MINERAL PRODUCTION IN ILLINOIS IN 1957

W. L. Busch

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W. L. Busch

ABSTRACT

The variety, amounts, and values of minerals produced in Illinois for 1956 and 1957 are summarized in this annual report of Illinois mineral production. The value of minerals produced in 1956 reached an all-time high of 613 million dollars. In 1957 the value fell to a preliminary 605 million but nevertheless exceeded the 600 million dollar mark for the second year. The minerals include coal, crude oil, stone, sands and gravel, fluorspar, metals, and such related items as clay products, cement, lime, natural gas, and liquefied petroleum gases. Brief economic analyses are accompanied by tables and maps. A directory of Illinois industrial mineral operations is included.

ILLINOIS MINERAL INDUSTRY

The 56,400 square miles of Illinois might appear to the unacquainted to be predominantly agricultural land, and indeed it is one of the richest farming regions in the world. However, Illinois is also one of the foremost mineral-rich states of the nation, producing a variety of minerals from its many mines, pits, quarries, and wells. The value of these minerals has exceeded the half billion dollar mark for eight consecutive years, and in both 1956 and 1957 rose to over 600 million dollars. During the ten year period 1948 through 1957, the total value of minerals produced in Illinois almost equaled the total value of mineral production during the preceding twenty-five year period, 1923 through 1947.

Coal and oil, the two minerals leading in value, account for about 70 percent of the 1957 value of Illinois mineral output and are sources of power for manufacturing, transportation, and mechanical equipment in fields such as agriculture. An abundance of industrial minerals, such as sand, gravel, stone and cement-making materials, supplies the construction industries. Minerals like refractory clays, clays for pottery making, and silica sand for glass, are produced in important quantities. Illinois is the leading producer of fluorspar, a mineral important in the steel, chemical, and ceramics industry. Also produced in Illinois are the metals zinc and lead, and small quantities of silver.

Although its fertile soils and abundant mineral resources provide a very strong economic base for its 9.5 million people, Illinois does not contain all the minerals and ores needed to support the wide variety of important manufacturing enterprises present in the state. Iron ore, for example, is lacking. However, various industries have been established in Illinois because assembling of raw materials from distant sources is most economically effected here. This unique combination of agricultural and mineral wealth and favorable transportation facilities provides Illinois with the foundation for a productive and enduring economy.

Table 1. - Summary of Illinois Mineral Production, 1956-1957^a

Material	Unit	Quantity	1956 ^{*,c}		1957 ^{b,c}	
			Value at plants		Value at plants	
			Total	Av.	Total	Av.
Coal - bituminous	tons	47,804,040	\$183,567,514	\$3.84	\$184,864,240	\$3.96
Crude oil	bbls.	82,314,000	242,826,300	2.95	239,911,370	3.13
Limestone and dolomite	tons	28,005,490	38,092,089	1.36	35,945,000	1.40
Cement	bbls.	9,301,189	27,263,794	2.93	26,153,750	3.05
Clay products	-	-	59,101,572	-	60,671,157	-
Sand	tons	10,461,300	7,852,592	0.75	7,122,500	0.77
Gravel	tons	12,776,606	10,570,480	0.83	9,775,000	0.85
Special sands	-	-	12,056,475	-	11,250,000	-
Fluorspar	tons	178,254	8,469,450	47.51	8,400,000	48.00
Zinc	tons	24,039	6,586,686	274.00	5,085,300	230.00
Lead	tons	3,832	1,203,248	314.00	817,920	288.00
Other minerals ^d	-	-	15,774,260	-	14,773,763	-
Annual mineral production			\$613,364,460		\$604,770,000	

* Revised figures.

a Compiled from figures by the U. S. Bureau of Mines, the Illinois State Department of Mines and Minerals, and the Illinois State Geological Survey.

b Preliminary or estimated figures.

c Subject to revision.

d Includes natural gas, natural gasoline, liquefied petroleum gases, lime, and silver.

Table 1 of this report gives a complete summary of Illinois mineral production for 1956 and 1957 (fig. 1). It lists the various minerals produced for these years, their amounts, and total values. Table 2 shows the total value of all minerals produced in Illinois for each year from 1914 through 1957. In table 3 are tabulated the average price, at the source, for twelve different Illinois mineral products (fig. 2). More detailed information regarding many of the mineral products of Illinois will be found in the following tables, charts, and maps.

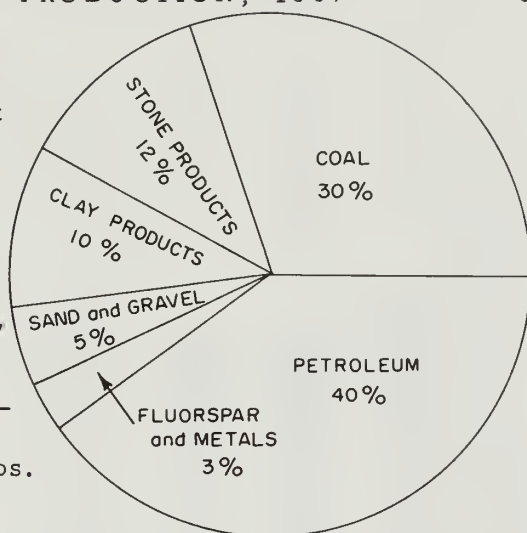


Fig. 1. - Value of Illinois mineral production in 1957 was \$604,770,000. Percentage contributions by the various segments of the Illinois Mineral Industry are shown above.

COAL INDUSTRY

Coal in Illinois

Illinois ranks as the fourth largest coal-producing state in the nation. During 1957 Illinois produced more than 46.6 million tons of bituminous coal, valued at an estimated 184.8 million dollars. The only states to produce larger tonnages of coal are West Virginia, Pennsylvania, and Kentucky. The quantity of coal produced each year in Illinois follows very closely the national pattern, up or down, and amounts to about 9 percent of the national total (fig. 3).

For many years the annual value of coal mined in Illinois exceeded that of any other mineral produced within the state. Although petroleum has only recently overtaken coal in annual dollar value, the vast coal reserves and nearby markets assure a long future for the Illinois coal industry. In fact, the calculated reserves of minable bituminous coal in Illinois, amounting to some 137 billion tons, exceed those of any other state.

Markets

The major market area for Illinois coal is in the rich Upper Mississippi Valley states to the north and west of Illinois, in spite of the fact that competition among coal, oil, and gas as fuels is keen. Illinois coal cannot move to the east or south to any appreciable extent because of the movement of coal from the Appalachian and Kentucky coal fields toward the highly industrialized southern shores of the Great Lakes region. Also, Illinois coal cannot penetrate the southwest market area because it is dominated by easily available oil and gas. Therefore, Illinois coal is marketed chiefly in Illinois with other amounts going to Wisconsin, Minnesota, Iowa, and Missouri for general purpose uses. However, it should be pointed out that certain Illinois coals have been shipped to markets in the iron and steel industry for metallurgical purposes.

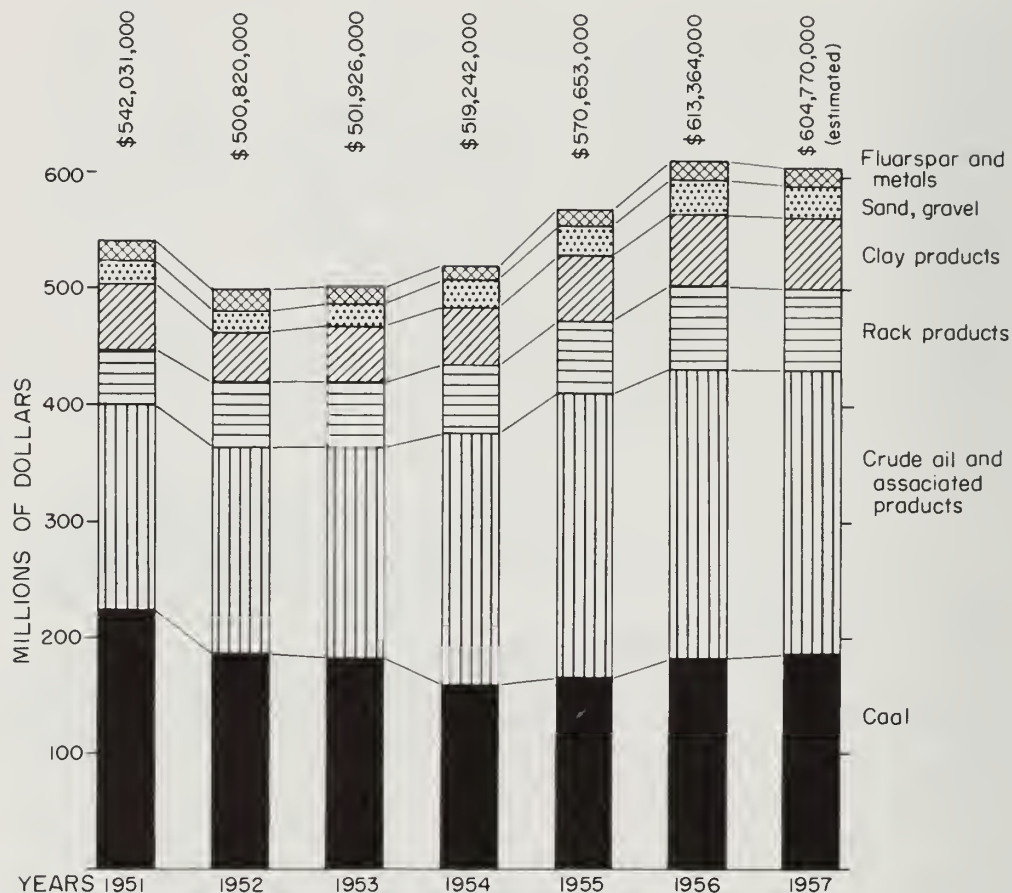


Fig. 2. - Illinois mineral production compared in value for 1951-1957.

Uses

One of the foremost uses for Illinois coal is in the electric utility field. Power stations throughout Illinois are near ample supplies of high-grade fuel to fire the boilers for the production of electrical energy, now in ever growing demand. Another use for Illinois coal is in the field of general manufacturing and processing throughout the Upper Mississippi Valley area. A third use for Illinois coal is for space-heating purposes in rural areas and in those communities where other sources of heat are not available or where cost is a deciding factor. The traditional railroad market, supplying fuel for firing steam locomotives, is virtually gone because most railroads have switched to diesel locomotives, but the few remaining steam locomotives still use small amounts of coal.

Table 2. - Value of Illinois Mineral Production, 1914-1957^a
(Thousands of dollars)

Year	Mineral production	Year	Mineral production	Year	Mineral production
1914	\$117,166	1929	\$182,791	1944	\$342,832
1915	114,446	1930	148,311	1945	344,267
1916	146,360	1931	108,066	1946	379,673
1917	234,736	1932	71,693	1947	458,734
1918	271,244	1933	74,837	1948	567,624
1919	213,701	1934	89,212	1949	487,808
1920	373,926	1935	96,484	1950	539,236
1921	254,019	1936	117,916	1951	542,031
1922	244,618	1937	133,437	1952	500,820
1923	282,761	1938	130,155	1953	501,926
1924	235,796	1939	215,157	1954	519,242
1925	231,658	1940	287,327	1955	570,653
1926	237,242	1941	333,225	1956	613,364*
1927	180,394	1942	341,835	1957	604,770 ^b
1928	188,099	1943	337,912		

* Revised figure.

a Compiled from figures by the U. S. Geological Survey, U. S. Bureau of Mines, Illinois State Department of Mines and Minerals, and the Illinois State Geological Survey.

b Preliminary figure.

Coke Industry

One other significant and growing use for Illinois coal is in the iron and steel industry which uses large quantities of coke in the blast furnace to reduce iron ore to a free metal. Coke is made by heating certain coals to a high temperature in order to drive off moisture and volatile matter, leaving a solid sponge-like residue that burns readily and produces the high temperature necessary to smelt iron ore.

The coal from which coke is made is found mainly in Pennsylvania, West Virginia, eastern Kentucky, and Alabama. For Illinois iron makers, this means that the cost of the coal used to make coke is high because of the freight rate from eastern states. Furthermore, the traditional supplies of coal for metallurgical purposes are limited, and the industry recognizes its need of additional sources of coal for coking purposes. Finally, the development of alternative methods of ore reduction are not likely to replace the blast furnaces, but will probably be applicable only in special circumstances where resources permit smaller units and more costly processes than the blast furnace.

Because iron and steel output is expected to expand in the future, with corresponding increased demands for coke, ways of using Illinois coal for coking purposes have been investigated by the Illinois State Geological Survey. As a result of these studies, Illinois coal producers are preparing increased amounts of Illinois coal for use in the manufacture of metallurgical coke.

Table 3. - Average Prices of Illinois Mineral Products^a

Year	Coal (ton)	Crude oil (bbl.)	Limestone dolomite (ton)	Cement (bbl.)	Lime (ton)	Silica sand (ton)
1947	\$3.15	\$2.10	\$1.17	\$1.88	\$9.15	\$1.72
1948	3.88	2.77	1.26	2.04	10.60	1.91
1949	4.04	2.77	1.23	2.11	11.58	2.08
1950	4.05	2.77	1.21	2.19	12.15	2.13
1951	4.07	2.77	1.20	2.40	12.70	2.28
1952	4.10	2.77	1.27	2.40	12.84	2.30
1953	3.95	2.91	1.24	2.54	13.44	2.38
1954	3.82	3.00	1.27	2.57	13.95	3.07
1955	3.66	2.93	1.22	2.66	14.62	3.41*
1956	3.84	2.95	1.36	2.93	15.25	3.62

Year	Sand (ton)	Gravel (ton)	Fluorspar (ton)	Zinc (ton)	Lead (ton)	Silver (ounces)
1947	\$.69	\$.58	\$36.78	\$242.00	\$290.00	\$.905
1948	.72	.65	36.64	266.00	358.00	.905
1949	.74	.65	38.23	248.00	316.00	.905
1950	.74	.68	39.52	278.00	266.00	.905
1951	.74	.75	45.49	364.00	346.00	.905
1952	.72	.71	50.35	332.00	322.00	.905
1953	.74	.76	52.46	218.00	266.00	.905
1954	.73	.78	55.54	216.00	274.00	.905
1955	.77	.85	47.12	246.00	298.00	.905
1956	.75	.83	47.51	274.00	314.00	.905

* Revised figure.

^a Subject to revision.

In 1956, according to a report issued by the United States Bureau of Mines, some 570.5 thousand tons of Illinois coal were used in Illinois and Indiana by the steel industry for blending with eastern coals for the production of metallurgical coke. Recent investigations indicate that the demand for Illinois coal for coking purposes will increase in the future.

Transportation

Illinois coal goes to market by one of several different methods of transportation or by a combination of them. Railroads carry the bulk of Illinois coal to its various market areas and usually takes care of the major portion of the long-haul shipments.

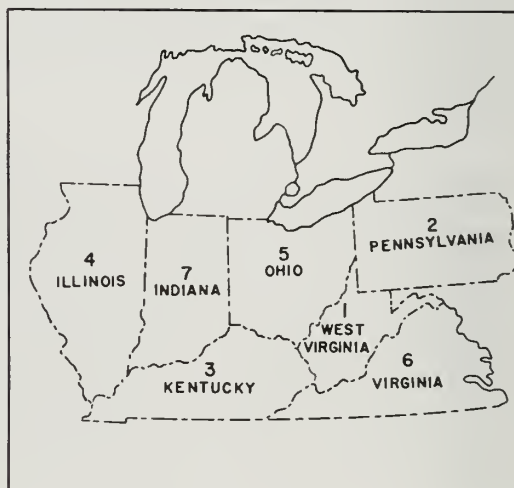


Fig. 3. - States that produced 90 per-cent of the nation's bituminous coal in 1957.

Table 4. - Percent of Total Value Contributed by Various Segments of the Illinois Mineral Industry^a

Year	Coal	Petroleum products	Stone products	Clay products	Sand and gravel	Fluorspar and metals	Total percent
1947	46.9	32.9	7.7	7.4	3.1	2.0	100.0
1948	45.2	34.5	7.5	7.9	3.0	1.9	100.0
1949	39.4	38.7	8.6	7.8	3.4	2.1	100.0
1950	43.0	33.6	8.2	9.0	3.5	2.7	100.0
1951	41.2	32.6	9.2	9.9	3.7	3.4	100.0
1952	37.4	35.2	11.3	8.7	4.0	3.4	100.0
1953	36.2	36.7	11.4	9.2	4.0	2.5	100.0
1954	30.7	41.6	11.8	9.1	4.9	1.9	100.0
1955	29.3	42.7	11.3	9.6	4.5	2.6	100.0
1956	30.0	40.6	12.2	9.6	5.0	2.6	100.0

a Source: Illinois Geological Survey Mineral Production Reports.

A second method of transporting coal from the mine or producing area to market is by means of the rapidly expanding water carriers on the inland waterways. Coal-consuming industries and coal producers are locating on, or as near as possible to, inland waterways. This development, very important to the coal industry, has been especially significant on the Ohio River in Ohio, Kentucky, and West Virginia. The effect is already seen in the increased output of coal from these states, and further industrial expansion is anticipated for these areas. Loading docks in Illinois for the transfer of coal from rail or truck to barge are located at Rock Island and Alton on the Mississippi River, at Peoria and Liverpool on the Illinois Waterway, and at Shawneetown and Joppa on the Ohio River.

Situations requiring a combination of carriers, as suggested above, occur when coal is loaded on railroads to be hauled to dock-side for loading on barges for further transportation by river. At some places coal is trucked to dock-side for further movement by inland waterway. Another type of transfer occurs on the south side of Chicago near Lake Michigan where coal from railway cars is dumped, then by a conveyor system is loaded into a lake boat for transportation to upper, lake-port markets.

A final method of hauling coal is by truck. In 1957 about 12 percent of the state's total production was moved from mine to market by this method. However, the distance of haul is usually relatively short because truck-hauling of coal is primarily for local markets near the mine in both urban and rural areas.

Production

The record of coal production in Illinois for 1957 is shown in tables 5, 6, and 7. Table 5 summarizes the 1957 production record by giving a complete county-by-county tabulation of amounts of coal produced, type of mining (strip or underground), number of mines, and the approximate value of the product. This table also shows that of the 35 counties that produced coal, 13 produced more than one million tons each, or 90 percent of the state's output.

Coal production by stripping methods predominates in the northwest counties of Fulton and Knox and is important also in Perry, Randolph, St. Clair, Sa-line, Vermilion, Williamson, and Bureau counties. Since 1951 the amount of

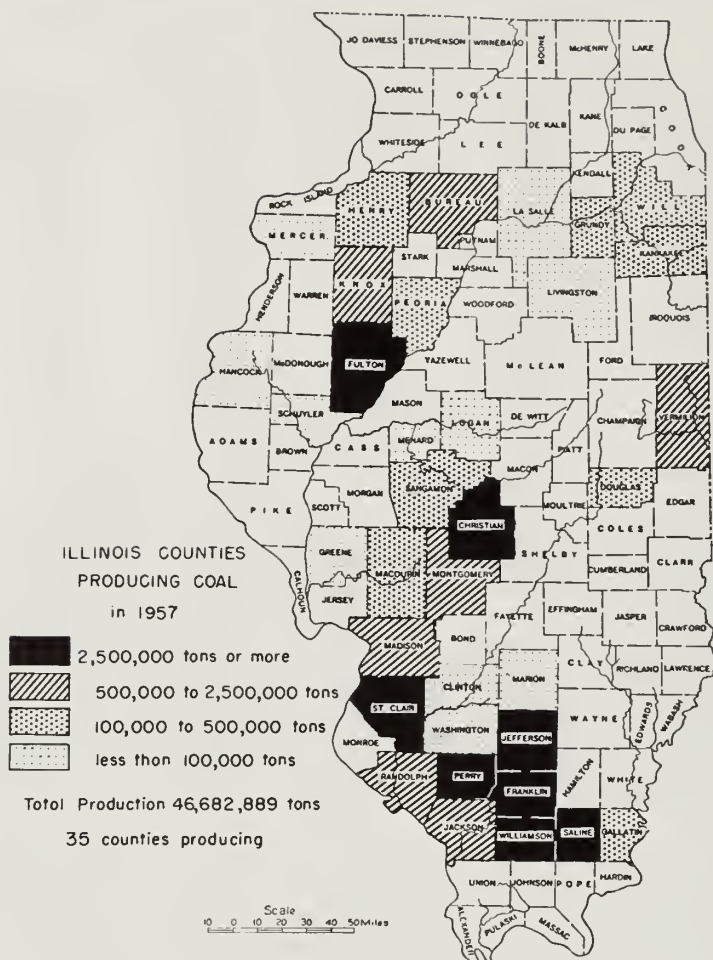


Fig. 4. - Illinois coal production by counties in 1957.

coal produced in Illinois by stripping methods has varied from about 16.4 million tons to about 19.8 million tons per year.

During this period, total coal produced in the state ranged from a high of 54.8 million tons to a low of 41.7 million tons. The comparative figures indicate that the coal-stripping industry in Illinois not only has maintained a rather constant tonnage production, but has gradually increased the percentage ratio; in 1957 the strip-mine industry produced some 19.8 million tons or 42 percent of the total coal produced in the state.

Table 6 shows the accumulated production by counties since 1882 when mining records were begun. Eleven counties have produced more than 100 million tons of coal in the 76 years of recorded production and they account for three-fourths of the state's entire output. Of the 70 counties that have produced coal from 1882 to the present time, 35 are still producers (fig. 4).

Table 5. - Illinois Coal Production by Counties in 1957^a

County	Number of mines	Tons mined		Total tons	Total value ^b
		Underground	Strip		
Bureau	1	-	875,544 ^c	875,544	\$ 3,467,154
Christian	2	5,738,338	-	5,738,338	22,723,818
Clinton	2	64,935	-	64,935	257,143
Douglas	1	423,880	-	423,880	1,678,565
Franklin	4	4,592,021	-	4,592,021	18,184,403
Fulton	23	56,939	5,428,943	5,485,882	21,724,093
Gallatin	11	121,413	88,619	210,032	831,727
Greene	1	-	5,248	5,248	20,782
Hancock	1	-	34,522	34,522	136,707
Henry	3	81,369	-	81,369	322,221
Jackson	9	699,544	506,941	1,206,485	4,777,680
Jefferson	2	3,010,200	6,281	3,016,481	11,945,265
Kankakee	1	-	843,475 ^d	843,475	3,340,161
Knox	4	-	1,898,117	1,898,117	7,516,543
LaSalle	4	-	9,186	9,186	36,377
Livingston	2	-	2,222	2,222	8,799
Logan	1	30,235	-	30,235	119,731
Macoupin	2	431,340	-	431,340	1,708,106
Madison	4	910,165	-	910,165	3,604,253
Marion	1	50,628	-	50,628	200,487
Menard	3	14,915	-	14,915	59,063
Mercer	1	-	249	249	986
Montgomery	1	1,602,483	-	1,602,483	6,345,833
Peoria	15	33,893	315,887	349,780	1,385,129
Perry	7	1,164,472	2,260,773	3,425,245	13,563,970
Randolph	4	628,267	854,993	1,483,260	5,873,710
St. Clair	10	2,038,439	1,971,320	4,009,759	15,878,646
Saline	17	1,215,438	1,327,361	2,542,799	10,069,484
Sangamon	2	116,839	-	116,839	462,682
Schuyler	4	12,383	6,091	18,474	73,157
Vermilion	9	60,995	1,027,153	1,088,148	4,309,066
Washington	2	35,706	-	35,706	141,396
Will	1	-	134,178	134,178	531,345
Williamson	40	3,664,073	2,286,876	5,950,949	23,565,758
Total	195	26,798,910	19,883,979	46,682,889	\$184,864,240

a Source: Production figures, Illinois State Department of Mines and Minerals.

b Average value for Illinois coal, f.o.b. mine, estimated at \$3.96 per ton, 1957.

c Includes 144,929 tons mined in Henry County.

d Includes 192,883 tons mined in Grundy County, and 169,689 tons mined in Will County.

Table 6. - Coal Production by Illinois Counties, 1882-1957^a

County	Total production (in tons)	Total years of production	Last year of production
Adams	46,186	15	1942
Bond	7,355,569	57	1942
Brown	57,324	34	1950
Bureau	51,275,305	73	1957
Calhoun	96,247	27	1912
Cass	212,477	53	1941
Christian	228,388,596	73	1957
Clark	4,482	2	1955
Clinton	38,540,304	76	1957
Coles	198,932	6	1888
Crawford	44,786	13	1942
Douglas	2,284,003	12	1957
Edgar	915,698	41	1952
Effingham	796	1	1890
Franklin	481,297,870	59	1957
Fulton	190,434,392	76	1957
Gallatin	5,343,457	73	1957
Greene	644,611	74	1957
Grundy	40,849,682	76	1957
Hamilton	22,097	16	1905
Hancock	733,286	71	1957
Hardin	40	1	1890
Henry	22,246,059	76	1957
Jackson	85,642,153	76	1957
Jasper	23,739	11	1939
Jefferson	18,915,770	54	1957
Jersey	120,350	59	1951
Johnson	244,004	52	1956
Kankakee	7,362,580	38	1957
Knox	32,747,792	76	1957
LaSalle	65,534,745	76	1957
Livingston	10,109,162	76	1957
Logan	14,305,615	73	1957
Macon	11,000,468	65	1947
Macoupin	261,988,924	76	1957
McDonough	2,634,903	69	1951
McLean	5,544,139	47	1928
Madison	160,472,060	76	1957
Marion	39,117,484	76	1957
Marshall	12,516,141	70	1951
Menard	13,385,232	76	1957
Mercer	14,999,171	70	1957
Monroe	8,284	13	1941
Montgomery	87,939,987	76	1957
Morgan	190,787	64	1951

^a Source: Illinois State Department of Miner and Minerals.

Table 6. - Continued

County	Total production (in tons)	Total years of production	Last year of production
Moultrie	2,032,236	16	1924
Peoria	66,955,163	76	1957
Perry	171,481,268	76	1957
Pike	5,081	8	1942
Pope	1,562	11	1938
Putnam	10,071,893	29	1938
Randolph	73,311,748	76	1957
Richland	154	1	1890
Rock Island	3,846,169	67	1948
St. Clair	234,168,856	76	1957
Saline	195,514,349	76	1957
Sangamon	232,772,851	76	1957
Schuyler	3,017,551	75	1957
Scott	612,476	61	1942
Shelby	4,119,763	67	1950
Stark	1,227,280	69	1952
Tazewell	17,633,802	75	1956
Vermilion	152,911,277	76	1957
Wabash	186,144	29	1943
Warren	685,466	73	1954
Washington	17,835,032	76	1957
White	1,676,741	36	1940
Will	37,292,432	76	1957
Williamson	318,357,133	76	1957
Woodford	7,810,160	70	1951
Total (1882-1957)	 3,469,322,276		
Estimated production (1833-1881)	 73,386,123		
Total production (1833-1957)	 3,542,708,399		

PETROLEUM INDUSTRY

Oil production in the United States during 1957 amounted to more than 2.6 billion barrels, and it was the sixth consecutive year that this country produced more than 2 billion barrels of crude oil. Ten states, eight of them west of the Mississippi River, accounted for almost 94 percent of the 1957 domestic production (table 11). Texas holds the dominant position with about 41.5 percent of the nation's output. California, Louisiana, and Oklahoma, the three next largest producing states, contributed a combined total of about 33.5 percent of the domestic production. Of the top ten oil producing states, six of them - Kansas, Wyoming, New Mexico, Illinois, Colorado, and Mississippi - are comparatively small producers.

A continued and uninterrupted supply of liquid fuels is essential to present day living. However, it is significant (table 12) that for the first time in many years the estimated reserves of oil in this country failed to reach a new high.

Table 7. - National Production of Bituminous Coal, 1954-1957^a
(thousands of tons)

State	1954	1955	1956 [*]	1957 ^b	Percent of 1957 total
West Virginia	115,996	139,168	155,891	155,000	31.6
Pennsylvania	72,010	85,713	90,287	86,300	17.6
Kentucky	56,964	69,020	74,555	75,000	15.3
Illinois	41,971	45,932	48,102	46,800	9.6
Ohio	32,469	37,870	38,934	36,000	7.3
Virginia	16,387	23,508	28,063	29,000	5.9
Indiana	13,400	16,149	17,089	16,200	3.3
Alabama	10,282	13,088	12,663	13,200	2.7
Tennessee	6,429	7,053	8,848	7,300	1.5
Utah	5,008	6,296	6,522	6,750	1.4
Total	370,916	443,797	480,954	471,550	96.2
All other states	20,790	20,836	19,920	18,450	3.8
Grand total	391,706	464,633	500,874	490,000	100.0

* Revised figures.

a Source: U. S. Bureau of Mines.

b Preliminary figures.

In fact, the estimated reserves fell by some 134 million barrels. This is a small decline from the previous year, but in consideration of the continued and growing demand for liquid fuels in the United States, the point is not to be disregarded.

In regard to the question of oil reserves, the industry each year makes a survey of the amount of oil reserve that has been proved and can be produced under current conditions of price and production practices. The oil reserves of the states and of the country, therefore, are established each year. The figures must not be misunderstood. They do not mean that all the oil in a state or in the nation has been discovered, but the figures given do represent a known amount of oil on a given date. Like a bank balance, amounts are added or withdrawn from day to day. However, continual exploration for oil is an established part of the oil industry.

Illinois Oil Production

Oil production in Illinois for 1957 was estimated to be 76,649,000 barrels. This amount was about 5,665,000 barrels, or approximately 7 percent less than the 82,314,000 barrels produced in 1956. Peak production for Illinois oil was attained in 1940 when 147,647,000 barrels were produced, after which production gradually declined to a low of 59,025,000 barrels in 1953. In 1954 the downward trend was reversed and production increased to the 1956 post-war high of 82,314,000 barrels. The average value for Illinois oil in 1957 was estimated at \$3.13 per barrel for a total value of almost 240 million dollars for the amount produced. (See fig. 5.)

Although for many years the value of coal mined in Illinois exceeded that of any other mineral produced within the state, the value of crude oil, since

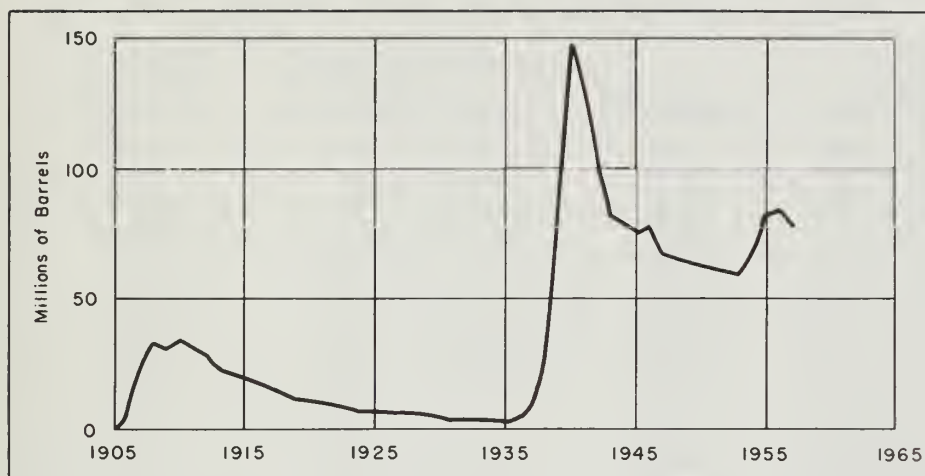


Fig. 5. - Illinois production of crude petroleum, 1905-1957.

1954, has been substantially greater than the value of coal. For 1957, Illinois crude oil, together with its associated products of gas and liquefied petroleum gases, accounted for about 40 percent of the state's total mineral product.

Illinois leads all states lying wholly east of the Mississippi River in oil production for 1957. Illinois produced about 43 percent of the total for these states compared with 22 percent for second ranking Mississippi. At the end of 1957, Illinois ranked eighth in the nation in the production of crude oil. However, during 1940, the year of peak production, Illinois ranked fourth in the nation, exceeded only by Texas, California, and Oklahoma.

The improved volume of oil production in Illinois for 1955 and 1956 resulted from increases in secondary recovery operations and increases in drilling (table 8). Early in 1955 the Eldorado Consolidated pool also contributed greatly to the high production rate. Although expansion of secondary recovery operations was enough to maintain the rate of production through 1956, it cannot be expected to do so indefinitely. Drilling activity in Illinois during 1957 was down considerably from the 1956 rate. However, the decline in volume of oil produced during 1957 was due mostly to temporary reduction of refinery operations caused by a strike, and does not necessarily reflect a drop in potential production.

The area of proved production in Illinois, including abandoned pools, at the end of 1956 was about 539,000 surface acres for oil and 29,000 for gas. Of this amount about 375,800 oil acres and about 16,500 gas acres were in pools discovered since January 1, 1937, the year the new oil fields were opened in Illinois. (See fig. 6.)

An average of 25 to 35 new pools have been discovered annually in Illinois for about 20 years. In 1956 only 18 new pools were discovered, and the number may continue to be smaller than in the past (fig. 7). As productive areas are drilled up, discovery wells are more apt to be extensions of pools rather than discovery wells of new pools.

Table 8. - Illinois Well Completions and Production, 1936-1957

Year	Completions ^a	Producing wells		Production ^{b,c} (thousands of barrels)
		Number	Percent of completions	
1936	93	52	56.0	4,445
1937	449	292	65.0	7,426
1938	2,536	2,010	79.0	24,075
1939	3,617	2,970	82.0	94,912
1940	3,755	3,080	82.0	147,647
1941	3,807	2,925	77.0	134,138
1942	2,017	1,179	58.0	106,590
1943	1,791	1,090	61.0	82,256
1944	1,991	1,229	62.0	77,413
1945	1,763	1,094	62.0	75,210
1946	2,362	1,387	59.0	75,297
1947	2,046	1,102	54.0	66,459
1948	2,489	1,316	53.0	64,808
1949	2,741	1,447	53.0	64,501
1950	2,894	1,328	46.0	62,028
1951	2,383	947	40.0	60,244
1952	2,077	854	41.0	60,071
1953	2,161	1,161	54.0	59,025
1954	3,254	1,896	58.0	66,940
1955	3,885	2,164	56.0	81,131
1956	3,640	1,742	48.0	82,314
1957	2,585	1,114	43.0	76,649

a Includes only oil and gas producers and dry holes.

b Based on information furnished by oil and pipeline companies.

c From U. S. Bureau of Mines through 1950.

Table 9. - Illinois Fields That Produced More Than One Million Barrels of Oil During 1957

Rank	Field	Production (barrels)	Percent of state total
1	Louden	11,800,000	15.3
2	Southeastern Illinois	9,694,000	12.7
3	Clay City Consolidated	8,262,000	10.8
4	Salem Consolidated	5,668,000	7.4
5	New Harmony Consolidated	3,681,000	4.8
6	Dale Consolidated	2,665,000	3.4
7	Centralia	2,543,000	3.3
8	Roland Consolidated	2,437,000	3.2
9	Sailor Springs Consolidated	1,627,000	2.2
10	Inman East Consolidated	1,451,000	1.9
11	Albion Consolidated	1,292,000	1.6
Total		51,120,000	66.6
Other fields		25,529,000	33.4
State total		76,649,000	100.0

Table 10. - Estimated Oil Production by Illinois Counties in 1956^a

County	Production		Value ^b (thousands of dollars)
	(thousands of barrels)	Percent of total	
Bond	1,090	1.32	\$ 3,215.5
Christian	1,846	2.24	5,445.7
Clark and Cumberland	2,120	2.58	6,254.0
Clay	4,153	5.05	12,251.3
Clinton	2,295	2.79	6,770.2
Coles	1,636	1.99	4,826.2
Crawford	2,953	3.59	8,711.3
Douglas	724	0.88	2,135.8
Edgar	116	0.14	342.2
Edwards	1,520	1.85	4,484.0
Effingham	558	0.68	1,646.1
Fayette	10,369	12.60	30,588.5
Franklin	2,075	2.52	6,121.3
Hancock and McDonough	67	0.08	197.7
Gallatin	3,057	3.71	9,018.1
Hamilton	4,252	5.17	12,543.4
Jasper	1,958	2.38	5,776.1
Jefferson	2,832	3.44	8,354.4
Lawrence	4,866	5.91	14,354.7
Macon	72	0.09	212.4
Madison	415	0.50	1,224.3
Marion	7,210	8.76	21,269.5
Monroe	1	-	3.0
Montgomery	5	-	14.8
Moultrie	6	-	17.7
Perry	18	0.02	53.1
Randolph	218	0.26	643.1
Richland	2,881	3.50	8,498.9
St. Clair	16	0.02	47.2
Saline	2,390	2.90	7,050.5
Sangamon	40	0.05	118.0
Shelby	21	0.02	62.0
Wabash	3,306	4.02	9,752.7
Washington	1,159	1.41	3,419.1
Wayne	7,314	8.89	21,576.3
White	8,755	10.64	25,827.2
Total	82,314	100.00	\$242,826.3

a Subject to revision.

b Average price estimated at \$2.95 per barrel.

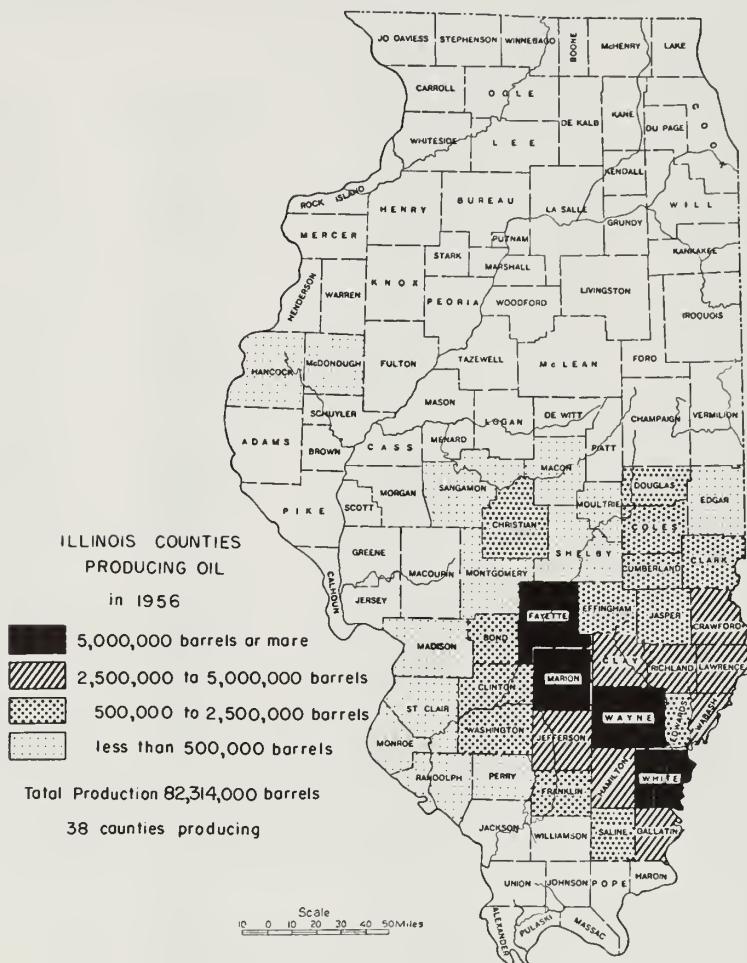


Fig. 6. - Illinois oil production by counties in 1956.

Table 9 shows that two-thirds of the state's 1957 production came from the 11 fields that produced more than one million barrels each. The Centralia pool, which had been producing less than one million barrels of oil per year, increased its output to over 2.5 million barrels in 1957 as a result of water-flooding.

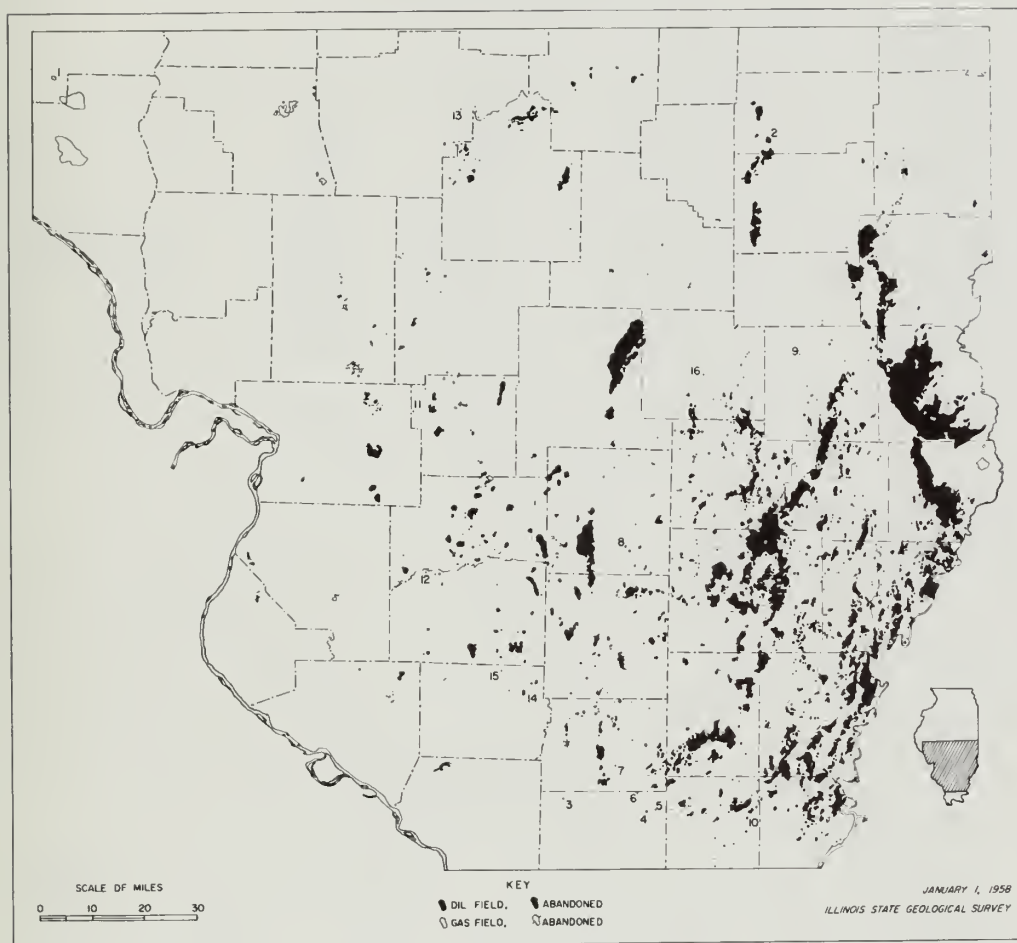


Fig. 7. - Oil pools discovered in Illinois in 1957.

- | | | |
|---------------------|----------------------|------------------|
| 1 Beverly Gas | 6 Corinth North | 12 New Memphis |
| 2 Chesterfield East | 7 Deering City | 13 Roby West |
| 3 Clifford | 8 Exchange West | 14 Tamaroa South |
| 4 Corinth | 9 Gila | 15 Turkey Bend |
| 5 Corinth East | 10 Grayson | 16 Watson |
| | 11 New Douglas South | |

Table 11. - National Production of Crude Oil, 1954-1957^a
(thousands of barrels)

State	1954	1955	1956*	1957 ^b	Percent of 1957 total
Texas	974,275	1,053,297	1,107,808	1,085,918	41.5
California	355,865	354,812	350,754	339,668	13.0
Louisiana	246,558	271,010	299,421	323,199	12.3
Oklahoma	185,851	202,817	215,862	215,111	8.2
Kansas	119,317	121,669	124,204	121,705	4.6
Wyoming	93,533	99,483	104,830	106,616	4.1
New Mexico	74,820	82,958	87,893	94,759	3.6
Illinois	66,798	81,423	82,346	78,278	3.0
Colorado	46,206	52,653	58,516	54,867	2.1
Mississippi	34,240	37,741	40,824	39,202	1.5
Total	2,197,463	2,357,863	2,472,458	2,459,323	93.9
All other states	117,525	126,565	144,825	159,199	6.1
Grand total	2,314,988	2,484,428	2,617,283	2,618,522	100.0

* Revised figures.

a Source: U. S. Bureau of Mines.

b Preliminary figures.

Table 12. - Estimates of Proved Oil Reserves in Illinois
and Other States^a
(millions of barrels)

State ^b	1955	1956	1957	1958	Reserve change from 1957
Illinois	658	691	700	655	-45
Indiana	67	61	68	67	-1
Kansas	978	998	992	947	-45
Louisiana	2,962	3,255	3,675	3,857	+182
New Mexico	806	820	835	832	-3
Oklahoma	1,955	2,016	2,010	1,942	-68
Texas	14,982	14,934	14,783	14,555	-228
Wyoming	1,304	1,374	1,363	1,420	+57
United States	29,561	30,012	30,434	30,300	-134

a Source: American Petroleum Institute.

b Figures as of January 1, each year.

Table 13. - Estimates of Natural Gas Reserves in Illinois
and Other States^a
(billions of cubic feet)

State ^b	1955	1956	1957	1958	Reserve change from 1957
Illinois	254	234	220	166	-54
Indiana	36	33	34	31	-3
Kansas	15,758	16,293	17,566	19,296	+1,730
Kentucky	1,287	1,262	1,246	1,225	-21
Louisiana	36,800	42,436	45,054	51,436	+6,382
New Mexico	17,241	18,585	23,473	22,258	-1,215
Oklahoma	12,396	13,205	13,775	14,259	+484
Texas	105,129	108,288	112,729	113,084	+355
Wyoming	2,855	3,196	3,236	3,457	+221
United States	211,711	223,697	237,775	246,569	+8,794

a Source: American Gas Association. b Figures as of January 1, each year.

STONE, SAND, AND GRAVEL

Crushed stone, from limestone and dolomite, is the most important stone product in Illinois. The material is used in construction, highway building, railway roadbeds, agriculture, the chemical and metallurgical industries, cement and lime manufacture, and for several minor uses.

The counties leading in the production of crushed stone for various purposes are Cook, Kankakee, Livingston, Randolph, St. Clair, and Will. In 1956 each of these counties reported a production of more than one million tons, but Cook County led with a production of more than 11 million tons. Although only six counties in the state produced more than one million tons of crushed stone, almost half of the counties in Illinois have reported recent stone production.

Revised figures for 1956 (table 14) show that Illinois producers reported a little more than 28 million tons of stone produced, not including stone used in the manufacture of cement and lime. This amount of stone was valued at more than 38 million dollars, or an average of about \$1.36 per ton. Estimated production figures for 1957 indicate a decrease in tonnage from the 1956 amount. Although the total value of the 1957 production is also less than the 1956 figure, the average value amounts to about \$1.40 per ton.

A survey of some of the various types of construction which would require the use of crushed stone as well as the use of common sand and gravel (table 15), would include the following: Highway and road building and maintenance, both paved and unpaved surfaces; residential construction including new units and additions and alterations to existing units, both urban and rural; nonresidential buildings of industry including factories, office buildings, warehouses, stores, garages, and restaurants; other types of nonresidential buildings including schools, churches, hospitals and institutions, and recreational structures. In the category of public utility construction are such enterprises as railroad facilities, telephone installations, electric light and power projects. Under the heading of public construction would come military installations, administrative and service buildings, housing projects, sewer and water systems, and many other developments. The above inventory of the various kinds and types of construction involving the use of crushed stone or the use of sand and gravel is only a partial list of the many uses to be found for these materials.

Table 14. - Illinois Limestone and Dolomite Production, 1956-1957^a

Use	1956*		1957 ^b	
	Tons	Value	Tons	Value
Agricultural	3,086,476	\$ 4,009,224	3,374,163	\$ 4,504,523
Construction and paving	22,377,435	30,432,718	20,145,000	28,320,000
Metallurgical	321,996	554,817	278,200	478,500
Railroad ballast	982,979	1,258,465	857,337	1,105,420
Other	1,236,604	1,836,865	1,020,300	1,536,557
Total	28,005,490	\$38,092,089	25,675,000	\$35,945,000

* Revised figures.

a Excluding stone used in manufacture of cement and lime.

b Estimated figures.

Table 15. - Illinois Sand^a and Gravel Production, 1956-1957

Uses	1956*		1957 ^b	
	Tons	Value	Tons	Value
Building sand	7,826,936	\$ 5,811,036	6,937,500	\$ 5,270,000
Paving and road sand	2,209,458	1,710,227	1,942,500	1,550,000
Other sand	424,906	331,329	370,000	302,500
Total sand	10,461,300	7,852,592	9,250,000	7,122,500
Building gravel	7,149,823	6,228,307	6,440,000	5,750,000
Paving and road gravel	4,729,226	3,528,833	4,255,000	3,279,500
Railroad ballast	515,697	367,895	460,000	331,500
Other gravel	381,860	445,445	345,000	414,000
Total gravel	12,776,606	10,570,480	11,500,000	9,775,000
Total sand and gravel	23,237,906	\$18,423,072	20,750,000	\$16,897,500

* Revised figures.

a Exclusive of silica sand and natural bonded molding sand.

b Estimated figures.

AGRICULTURAL LIMESTONE

Increased crop yields resulting from the application of commercial fertilizers will ultimately require use of agricultural limestone for replenishment of calcium in the soil. Some land is in pasture to which farmers generally do not apply limestone, but large areas of cropland remain inadequately limed and there is need for demonstrating that investment in limestone is more than returned in larger production.

Because agricultural limestone is an important commodity to the farmer as well as to the quarry operator, a special agstone canvass was conducted among stone producers to ascertain the amount of agstone sold by quarrymen for use in Illinois during 1957. The information reported on the returned questionnaires is summarized in the following figures:

Illinois agstone production in 1957 amounted to 3,374,163 tons and was valued at \$4,504,523 at the quarry, averaging \$1.34 per ton. Producers in Illinois shipped out of the state a reported total of 68,801 tons of agstone valued at \$91,891, an average of \$1.34 per ton. Stone producers in states surrounding Illinois shipped 93,862 tons of agstone into this state, valued at \$97,056, averaging \$1.03 per ton at the quarry. The indicated total amount of agstone available for use in Illinois, therefore, amounted to 3,399,224 tons, valued at \$4,509,688, an average of \$1.33 per ton.

The following list of Illinois counties gives the number of agstone-producing operations reported for the year 1957. The tonnage listed for each section of the state is the total amount of agstone that the operations are reported to have produced. The dollar figures given for each section represent the reported value at the quarry of the agstone produced. The county outline map of Illinois (fig. 8) shows the nine sections of the state used in tabulating this list of agstone operations.

CEMENT

Two counties in Illinois possess the state's four cement manufacturing plants; two are located at Oglesby and one at LaSalle in LaSalle County, and one at Dixon in Lee County. The industry is highly competitive and the success of a plant depends upon the market outlet obtainable for its product when the plant is operating at or near capacity.

Parallel with operating at capacity, the cement manufacturer must produce a high quality product with maximum efficiency. Some of the problems involved in obtaining maximum efficiency are to increase the productivity rate while improving the quality of the product. There must also be efficiency in the flow of materials through a minimum of handling and directness in routing and processing. The use of larger equipment plays an important part in increasing plant efficiency because, in general, it takes no more man-hours to operate high-capacity facilities than smaller units, and as a result, the output per unit of labor is increased.

Proper economic planning also helps to reduce unit costs of the product when plants are designed in such a manner that future manufacturing facilities can be available when needed without much additional construction.

Because transportation is an important element in the delivered cost of cement the continued successful operation of a plant depends upon a large market potential in its vicinity and upon having available to it low-cost transportation facilities.

ILLINOIS STATE GEOLOGICAL SURVEY

Illinois Agstone Reported for 1957^{a,b}

Counties Reporting Production

Counties Reporting Production

NORTHWEST

NORTHEAST

Carroll	
Jo Daviess	
Lee	32 operations
Ogle	332,377 tons
Rock Island	\$418,744
Stephenson	\$1.26 per ton av.
Whiteside	
Winnebago	

Boone	
Cook	
DeKalb	20 operations
DuPage	786,427 tons
Kane	\$997,880
Kendall	\$1.27 per ton av.
LaSalle	
McHenry	
Will	

WEST

Adams	
Hancock	12 operations
Henderson	260,148 tons
Knox	\$375,560
McDonough	\$1.44 per ton av.
Schuyler	
Warren	

EAST

Kankakee	8 operations
Livingston	690,083 tons
Vermilion	\$839,921
	\$1.22 per ton av.

WEST SOUTHWEST

Bond	
Christian	
Greene	14 operations
Jersey	218,243 tons
Madison	\$342,140
Montgomery	\$1.57 per ton av.
Pike	
Scott	

CENTRAL

Logan	5 operations
Menard	207,589 tons
Peoria	\$336,501
	\$1.62 per ton av.

SOUTHWEST

Clinton	
Jackson	
Johnson	13 operations
Monroe	538,374 tons
Pulaski	\$666,471
Randolph	\$1.24 per ton av.
St. Clair	
Union	

EAST SOUTHEAST

Clark	8 operations
Clay	257,238 tons
Coles	\$409,749
Effingham	\$1.59 per ton av.

SOUTHEAST

	4 operations
Hardin	83,684 tons
Massac	\$117,557
	\$1.40 per ton av.

116 operations reporting from 52 counties

a Subject to revision.

b All values at the quarry.

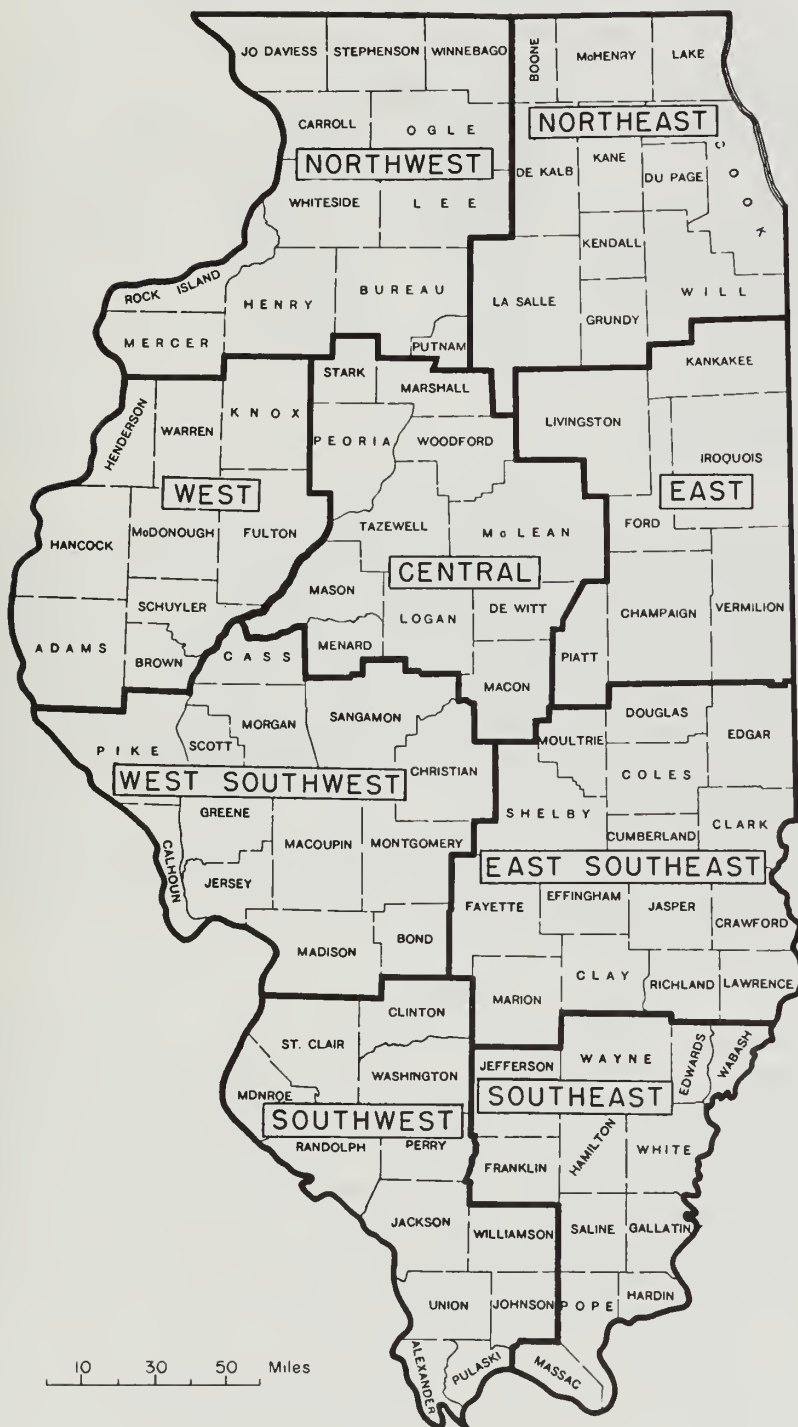


Fig. 8. - County outline map of Illinois showing area divisions.

Table 16. - Production of Illinois Clay Products, 1956-1957

Clay products reported	1956*		1957 ^a	
	Amount	Value	Amount	Value
Face brick	174,655,280	\$ 7,570,456	217,374,174	\$ 9,261,329
Common brick	307,471,630	7,485,945	265,631,355	6,936,415
Structural tile (tons)	46,096	520,347	55,684	601,164
Drain and sewer tile (tons)	137,975	3,964,150	129,572	3,589,669
Other structural products	-	1,433,332	-	1,412,732
Clay and silica refractories	-	14,603,392	-	13,382,866
Pottery and whiteware	-	23,523,950	-	25,486,982
Total		\$59,101,572		\$60,671,157

* Revised figures.

a Preliminary figures.

CLAY PRODUCTS

The manufacture of Illinois clay products reported for 1957 amounted to more than 60.6 million dollars. This was an increase of 1.5 million dollars above the 1956 total of 59.1 million dollars, which for that year marked the all-time high in value of clay products produced. Clay products include such items as face brick and common brick, sewer pipe and drain tile, flue pipe, building tile, vitreous plumbing fixtures, glazed tile, electrical porcelains, and pottery and whiteware. Also included in the list of Illinois clay products are the various forms of special heat-resistant fire brick and silica brick as used by the metallurgical industries. Table 16 gives a summary of clay products produced for the years 1956 and 1957.

Given below is a list of the number of clay product plants in Illinois, located according to county, reporting production for the years 1956 and 1957. The county outline map of Illinois (fig. 8) shows the nine sections of the state used in tabulating this list of operators.

SPECIAL SANDS

Special sands, as the term is used here, designates two Illinois sands that have special but important uses in our modern industries. One of these sands is a natural-bonded molding sand which is produced in comparatively small quantities each year. In 1956 more than 90,000 tons were produced, valued at \$185,000. Natural-bonded molding sand can be used in molds, practically as dug, and does not have to be mixed with a binding substance. Since molding sand, whether natural or compounded, is very important in the metal industries, it must possess special properties. A good molding sand must have the right surface and it must not collapse when heavy metal is poured into the mold. Also, it must not melt or fuse, burn or sinter, and must not become unfit for re-use.

The other special sand of Illinois is silica sand. This mineral, which is produced in substantial quantities in LaSalle County with additional amounts coming from Ogle County, is a nearly pure quartz (a natural form of silica) sand called silica sand. During 1956 more than 3 million tons of Illinois silica sand were produced for various uses and valued at more than 11 million dollars. The

Illinois Clay Product Plants Reporting Production, 1956-1957

County	1956	1957	County	1956	1957
NORTHWEST			NORTHEAST		
Bureau	1	1	Boone	0	1
Mercer	1	1	Cook	10	13
Rock Island	0	1	Grundy	1	1
Total	2	3	Kane	1	1
WEST			Lake	2	3
Brown	1	1	LaSalle	3	4
Knox	2	2	McHenry	1	1
McDonough	3	3	Will	2	2
Warren	1	1	Total	20	26
Total	7	7	EAST		
CENTRAL			Kankakee	3	3
Logan	1	1	Livingston	1	1
Marshall	1	1	Vermilion	2	2
Menard	1	1	Total	6	6
Tazewell	2	2	EAST SOUTHEAST		
Total	5	5	Crawford	1	1
WEST SOUTHWEST			Fayette	1	1
Greene	2	1	Total	2	2
Macoupin	0	1	SOUTHEAST		
Madison	3	3	Edwards	1	1
Sangamon	2	2	Saline	1	1
Scott	1	1	Total	2	2
Total	8	8	ILLINOIS TOTALS		
SOUTHWEST			Counties reporting	30	33
Jackson	1	1	Plants reporting		
St. Clair	2	2	production	55	62
Total	3	3			

city of Ottawa, in central northern Illinois, is the silica sand center for the state.

According to 1956 production figures the largest single use for Illinois silica sand was for the manufacture of glass. The usual types of glass are made by melting together a mixture of chemicals containing about two-thirds silica sand. The second most important use for the state's silica sand was for molding sand purposes. Silica sand, when tempered by the addition of clay or other binding material, makes an important type of molding sand because it can endure the great heat of metal casting.

Table 17. - Special Sands in Illinois, 1956-1957

Uses	1956*		1957 ^a	
	Tons	Value	Tons	Value
Silica sand				
Molding sand	852,003	\$ 2,223,819	740,000	\$ 2,035,000
Other uses ^b	2,006,521	6,483,732	1,820,000	6,095,000
Ground silica ^c	287,615	3,163,524	245,000	2,940,000
Total silica sand	-	\$11,871,075	-	\$11,070,000
Natural bonded molding sand	90,438	185,400	80,000	180,000
Total special sands	-	\$12,056,475	-	\$11,250,000

* Revised figures.

a Estimated figures.

b Glass, grinding and polishing, blast, fire and furnace, engine, filter.

c For abrasives, ceramics, foundry and filler from ground siliceous material.

Other important uses for silica sand include the following: blast sand for cleaning metal castings and dressing stone; engine sand for use on locomotives to keep the wheels from slipping on wet or slick rails; fire and furnace sand for lining furnaces and ladles used to handle molten metal; filter sand used for beds in water-filtration plants and in small mechanical filters; grinding and polishing sand used for cutting and polishing stone and for grinding and etching glass. A rather new use for silica sand is to be found in the oil industry for the hydraulic fracture treatment of oil-bearing rock.

Some silica sand is ground as fine as flour and is used as a grinding powder. Other uses for ground silica sand are in the ceramic industry for enamel, pottery, porcelain, and tile. Ground silica sand is also used as a filler or as an ingredient in paint.

FLUORSPAR

The mineral fluorspar is about as hard as glass, fairly heavy and brittle. It is transparent or translucent and commonly varies from green to white, but also occurs in yellow, blue, purple, pink, and brown hues. Crystallization usually takes the form of cubes.

Fluorspar is an important raw material for the iron and steel, aluminum, chemical, glass, and ceramic industries. Commercial fluorspar is graded principally according to its content of calcium fluoride and is ordinarily prepared as metallurgical grade, acid grade, and ceramic grade.

Uses

The steel industry, formerly the dominant consumer of fluorspar, uses it as a flux in the production of basic open-hearth steel, electric furnace steel, ferro-alloys and alloy steel, and Bessemer steel; iron foundries also use it. The addition of fluorspar to the molten metal increases the fluidity of the slag and helps remove impurities. The amount of fluorspar used per ton of steel varies considerably, but on the average each ton of basic open-hearth steel requires about $5\frac{1}{2}$ to 6 pounds. The U. S. Bureau of Mines reports that during 1957 the steel and foundry industries of the United States used a total of about 258,490 tons of fluorspar.

Table 18. - Fluorspar Shipped from Mines in the United States, and Imports in 1956^a

State	1956		Percent of United States	
	Tons	Value	Total tons	Total value
Illinois	178,254	\$ 8,469,450	54.1	59.4
Kentucky	14,865	607,704	4.5	4.3
Utah	10,581	265,449	3.2	1.9
Other states	<u>126,019</u>	<u>4,914,574</u>	<u>38.2</u>	<u>34.4</u>
Total: 1956	329,719	\$14,257,177	100.0	100.0
1955	279,540	\$12,590,398		
Imports for use in United States				
Total: 1956	485,552	\$11,224,968		
1955	369,419	\$ 8,540,431		

^a Source: U. S. Bureau of Mines.

In recent years the increased use of acid grade fluorspar by the aluminum and chemical industries for the manufacture of hydrofluoric acid has put this use of fluorspar in first place. During 1957, according to a report by the U. S. Bureau of Mines, the manufacture of hydrofluoric acid consumed a total of about 328,672 tons of the mineral. The production of hydrofluoric acid by the aluminum industry is used almost entirely in the manufacture of aluminum fluoride and synthetic cryolite, both needed in the manufacture of aluminum.

In the chemical industry, hydrofluoric acid is used primarily as an intermediate in the manufacture of fluorine compounds. These compounds are used for insecticides, wood preservatives, welding fluxes, antiseptics, as a concrete hardener, tooth-decay preventatives, synthetic optical crystals, and for many other purposes. Hydrofluoric acid is also used for making the alkylate needed in the production of high-octane aviation fuel.

Ceramic grade fluorspar is used principally in the manufacture of opal, opaque, and colored glass, and to make various colored enamels for coating metal and metalware and ceramic tiles. Other uses include the production of portland cement, rock wool, artificial abrasives, and basic refractory cements and bricks. In 1957, the glass and enamel industry consumed a total of about 35,965 tons of fluorspar. According to the U. S. Bureau of Mines, all other uses for fluorspar consumed about 16,350 tons in 1957.

Production

Domestic production of finished fluorspar in 1957 totaled 315,300 tons, and shipments of 310,500 tons were valued at \$14,969,400, according to reports of producers to the U. S. Bureau of Mines. In 1957 consumption of fluorspar set a new record of 639,477 tons, an increase of about 10 percent over that of 1956. Total imports of fluorspar for consumption in the United States during 1957 totaled about 631,367 tons of which approximately 412,200 tons were acid grade, according to the Census Bureau. However, these figures include some material imported in 1955 and 1956 and held in bond till 1957. Actual imports for consumption during 1957 totaled about 546,600 tons.

Table 19. - Fluorspar (domestic and foreign) Consumed in the United States, 1955-1956^a

State	Tons consumed		Percent of 1956 total consumed
	1955	1956	
Illinois	86,703	92,016	14.8
Pennsylvania	83,679	87,729	14.1
Ohio	69,031	74,544	12.0
Indiana	33,322	33,311	5.4
California	25,727	30,766	4.9
Kentucky	23,021	24,836	4.0
Michigan	24,651	21,013	3.4
Other states			
Delaware, New Jersey	67,701	81,272	13.1
Arkansas, Kansas, Louisiana, Oklahoma	58,152,	76,859,	12.4
Colorado, Utah	20,759	21,209	3.4
All other states	77,515	77,799	12.5
Total	570,261	621,354	100.0

^a Source: U. S. Bureau of Mines.

METALS IN ILLINOIS

Preliminary figures for 1957 indicate that mine output of zinc in Illinois amounted to about 22,110 tons, and was valued at more than five million dollars. The decrease in production from 1956 resulted largely from curtailment of zinc production at fluorspar-zinc-lead mines in southern Illinois, as output from the northern Illinois zinc-lead area increased slightly. During 1957 the principal zinc producers in southern Illinois were the Aluminum Company of America, the Minerva Oil Company, and Ozark-Mahoning Company. Zinc producers of northern Illinois were the Tri-State Zinc, Inc., and the Eagle-Picher Company.

Owing to a general decline in prices of lead and zinc in 1957, a number of mines shut down or curtailed production during the year. The sharpest decrease in lead production occurred in the southern Illinois-Kentucky region, where lead and zinc are recovered from fluorspar-lead-zinc ores.

Lead production in Illinois during 1957 amounted to about 2,840 tons, a decrease of 26 percent below the 1956 production of 3,832 tons. During the year nearly all of the small-scale producers suspended operations and the larger producers curtailed their activity.

Jo Daviess County in extreme northwestern Illinois and Hardin County in southern Illinois are the principal areas of metal production in this state.

DIRECTORY OF ILLINOIS INDUSTRIAL MINERALS PRODUCERS

The following pages contain lists of mineral operations (except fluorspar and metals) of recent record. The lists, arranged by product and by county, are not necessarily complete because of changes in organization, mining location, or other conditions.

The directory is published in order to aid consumers of mineral raw materials in locating the sources of production most convenient to them, to answer queries of mine- and quarry-equipment manufacturers, and to give citizens of Illinois information about their local industries.

Teachers in the public schools who use the annual reports for studies of mine mineral resources and conservation also will find the list valuable.

LIMESTONE AND DOLOMITE
PRODUCERS

Adams

Black White Limestone Co., Box
87, Front & 8th Sts., Quincy
Marblehead Lime Co., 300 W.
Washington St., Chicago 6
Menke Stone & Lime Co., 828 Ver-
mont St., Quincy
Missouri Gravel Co., Moline
Western Illinois Stone Co.,
Moline

Bond

Bond Stone Co., Sorento

Boone

Belvidere Lime Quarry, Ewald
Winkelman, 225 E. Marshall
St., Belvidere
Charles Lee & Sons, P.O. Kirk-
land, Irene

Calhoun

Calhoun Quarry Co., Batchtown
Paul C. Herter, Golden Eagle

Carroll

Allen Boyer, Mt. Carroll
Kingery & Messmer, Lanark
Minor Bros., R.R. 2, Milledge-
ville
Earl Randecker, Savanna

Christian

Tri-County Stone Co., Nokomi's

Clark

Casey Stone Co., 128 W. Ala-
bama, Casey

Ralph E. Montgomery, Box 128,
Marshall
Quality Lime Co., Marshall

Clay

Iola Stone & Material Co., Box
326, Centralia

Clinton

Huelsman Quarry Co., Inc., R.R.
3, Carlyle

Coles

Charleston Stone Co., Box 183,
Charleston
Olen Humphres Stone Quarry, Ash-
more

Cook

Consumers Co. of Illinois, 79 W.
Monroe St., Chicago 3
Dolese & Shepard Co., Box 227,
LaGrange
Material Service Corp., 300 W.
Washington St., Chicago 6

DeKalb

Macklin Bros., Steward
Elmer Larson, Box 476, DeKalb

DuPage

Elmhurst-Chicago Stone Co., 400
W. First St., Elmhurst

Effingham

Winter's Stone Quarry, Altamont

Fulton

Chipman Limestone Quarry, 585 E.
Fulton St., Farmington

Greene

Oran Orton, Hillview

Hancock

Colchester Stone Co., 1630 5th Ave., Moline

Gray Quarries, Inc., Hamilton
R. L. O'Neil & Sons, Carthage
Nauvoo Quarry Inc., Nauvoo

Hardin

J. L. Bean Stone Co., Golconda
P. R. Brown Stone Co., Box 355, Golconda

Okerson Quarry Co., Box 226, Cave in Rock
Rigsby & Barnard, Box 56, Cave in Rock

Henderson

Galbraith Stone Quarry, Raritan
Charles J. Moore Quarry, Box 282, Dallas City

Olson Bros., Box 355, Dallas City

Raid Bros. Construction Co., Biggsville (510 S. Main St., Burlington, Iowa)

Jackson

Illinois Quarry Co., Box 401, Ava

Jersey

Grafton Quarry, Grafton
Jersey Quarry, Inc., Jerseyville
Sievers Bros., Fieldon

Jo Daviess

Wallace E. Broege, Warren
Virgil Hardacre, R.R. 2, Pearl City

Kingery & Messmer, Lanark
Erwin B. Peacock, R.R. 1, Scales Mound

Harry Posey, Stockton
Dale Westaby, R.R. 4, Stockton
E. Wienen & Sons Construction Co., 308 South St., Galena

Johnson

Charles Stone Co., Cypress
Southern Illinois Stone Co., Box 28, Buncombe

Kane

Conco-Western Stone Co., Spring Valley

Fox River Stone Co., R.R. 2, Elgin

Kankakee

Bourbonnais Stone Quarry, 284 S. Clinton, Bradley

Lehigh Stone Co., Box 669, Kankakee

Manteno Limestone Co., Box 509, Manteno

Kendall

Central Limestone Co., R.R. 4, Morris

Orville Gunnerson, Lisbon

Knox

Abingdon Rock Co., Inc., Abingdon

LaSalle

Sheridan Stone Co., Box 117, Sheridan

Troy Grove Stone Co., Troy Grove

Utica Stone Co., 111 N. Spaulding St., Spring Valley

Lee

Frank N. Butler Co., Franklin Grove
Wilmer Gerdes Quarry, R.R. 2, Dixon

Ward McGinnis, R.R. 1, Dixon

William Seitz, R.R. 1, Oregon

Stoneridge Limestone Co., 503 Woolf Ct., Rochelle

Livingston

Chenoa Stone Co., Chenoa

Livingston Stone Co., R.R. 4, Pontiac

Ocoya Stone Co., R.R., Pontiac
Pontiac Stone Co., Box 412, Pontiac
Wagner Stone Co., R. R. 1, Pontiac

Logan

Rocky Ford Limestone Co., R. R. 1, Lincoln

Madison

C. M. Lohr Inc., Godfrey
Mississippi Lime Co., 7 Alby St., Alton

Reliance Whiting Co., 16th & Alby Streets, Alton

Massac

Columbia Quarry, 1007 Washington Ave., St. Louis 1, Mo.

McDonough

Colchester Stone Co., 1630 5th Ave., Moline

John McClure, Colchester
Olson Bros., Box 355, Dallas City

McHenry

Garden Prairie Stone Co., Inc.,
104 S. State St., Marengo

Menard

Athens Stone Quarry, R.R. 2, Athens
Indian Point Limestone Products,
Mason City

Mercer

Lynn Materials Inc., Viola

Monroe

Columbia Quarry, 1007 Washington Ave., St. Louis 1, Mo.

Montgomery

Litchfield Stone Co., Litchfield

Ogle

Clarence Lenstrom, Stillman Valley
Macklin Bros., Steward
N & L Construction Co., Polo
William Seitz, R.R. 1, Oregon
Clyde R. Walden, Byron

Peoria

Lamar Stone Co., Princeville
Long Rock Co., Box 97, Princeville
Princeville Stone Co., Princeville
Trivoli Stone Co., 168 N. Cone St.,
Farmington

Pike

V. H. Callender Construction Co.,
Pittsfield
Lacey and Bauer, Pearl
Norvin O. Lumley, Kinderhook
Pearl Stone Co., Pearl

Pulaski

Columbia Quarry, 1007 Washington Ave., St. Louis 1, Mo.

Randolph

Allied Chemical & Dye Corp., Solvay Process Division, Box 271,
Syracuse 1, N. Y.

Chester Quarry Co., Chester
Al Stotz Quarry, Prairie Du Rocher

Rock Island

Collinson Stone Co., 3115 23rd Ave., Moline
Cordova Quarry Inc., 3115 23rd Ave., Moline
Midway Stone Co., Inc., Hillsdale

St. Clair

Columbia Quarry, 1007 Washington Ave., St. Louis 1, Mo.
East St. Louis Stone Co., 523 Murphy Bldg., East St. Louis
Casper Stolle Quarry & Construction Co., R.R. 1, East St. Louis
Hecker Quarry, Inc., 301 S. Jackson St., New Athens

Schuyler

Elas Quarry, 315 E. Adams, Rushville
Vern Mitchell Quarry, Browning

Scott

Krueger Quarry, Winchester
Thomas Quarry, Winchester

Shelby

Winter's Stone Quarry, Altamont

Stephenson

Ray Askey, Orangeville
Wallace E. Broege, Warren
Irvin Buss, Davis
Russell E. Cox, Box 46, Lena
Elmer Fortner, 1406 S. Walnut,
Freeport
Norman Helms, R.R. 2, Freeport
Rees Construction Co., 2474 11th Ave., Monroe, Wis.
Scofield & Co., Inc., Box 480,
Freeport
V. H. Stich, Lena
Arthur Zimmerman & Son, Pecatonica

Union

Anna Quarries, Inc., Lock Drawer
180, Anna

Union, continued

Jonesboro Stone Co., R.R. 1, Anna
Lutz Marble Co., Box 345, Anna

Vermilion

Material Service Corp., 300 W.
Washington, Chicago 6

Warren

Monmouth Stone Co., 521 S. Third
St., Monmouth

Washington

Pitts Quarry, Ashley

Whiteside

Alldritt Bros., Morrison
Cordova Quarry Inc., 3115 23rd
Ave., Moline
Johnson Coal Co., Morrison
Fred R. McKenzie & Co., 405 Bon-
di Bldg., Galesburg

Will

Lincoln Crushed Stone Co., Pat-
terson & Brandon Road, Joliet
Material Service Corp., 300 W.
Washington, Chicago 6
National Stone Co., Div. of Dolese
& Shepard, Box 227, LaGrange

Winnebago

Charles Ind Co., 1415 Point Ave.,
Rockford
Charles Lee & Sons, P.O. Kirkland,
Irene
F. M. Porter & Son, South Beloit
Arthur Zimmerman & Sons, Peca-
tonica
William Nordhop, 1032 Kilburn
Ave., Rockford

CLAY AND CLAY PRODUCTS PRODUCERS

Alexander

Ozark Minerals Co., 807 $\frac{1}{2}$ Wash-
ington Ave., Cairo (clay)

Boone

Munson Bros. & Co., Box 8,
Capron

Brown

Frederic Brick & Tile Co., Box 146,
Mt. Sterling

Bureau

Sheffield Shale Products Co., Shef-
field

Cook

Alexander Burke's Sons, 3900 S.
Cicero Ave., Cicero 50
Brisch Brick Co., 228 N. LaSalle
St., Chicago 1
Carey Brick Co., 6558 W. Fuller-
ton Ave., Chicago 35
Chicago Brick Co., 135 S. LaSalle
St., Chicago 3
Chicago Fire Brick Co., 1467 N.
Elston Ave., Chicago 22
Chicago Pottery Co., 1920 Cly-
bourn Ave., Chicago 14
Illinois Brick Co., 228 N. LaSalle
St., Chicago 1
George Keller Pottery Co., 2618 N.
Lakewood Ave., Chicago 14
Northwestern Terra Cotta Corp.,
1750 W. Wrightwood Ave.,
Chicago
Plibrico Co., 1840 Kingsbury St.,
Chicago
The Ramtite Co., Div. of S. Ober-
mayer Co., 2563 W. 18th St.,
Chicago 8
Tuthill Building Material Co., 545
E. 103rd St., Chicago 28
Wingert Pottery Co., 5035 W. Fos-
ter Ave., Chicago

Crawford

Case Manufacturing Corp., Robin-
son (33 Main St., Buffalo 3,
New York)

Edwards

Albion Brick Co., Albion

Fayette

St. Elmo Brick and Tile Co., St.
Elmo

Greene

Ruckels Potteries, Inc., White Hall

Greene, continued

White Hall Sewer Pipe and Drain
Tile Co., White Hall (Laclede-
Christy Co., Division H. K.
Porter, Refractories Division,
2500 First National Bank Bldg.,
Pittsburgh 22, Pennsylvania)
Lyndall W. Wyatt, Box 256, White
Hall (clay)

Grundy

Illinois Clay Products Co., 214
Barber Bldg., Joliet

Jackson

Jackson County Brick Co., Camp-
bell Hill

Kane

Haeger Potteries, Inc., Dundee
Kohl Pottery Products, P.O. Hamp-
shire, Pingree Grove

Kankakee

Eastern Illinois Clay Co., St. Anne
Kankakee Clay Products Co., St.
Anne
St. Anne Brick & Tile Co., St.
Anne

Knox

Abingdon Potteries, Inc., 801 N.
Main St., Abingdon
Purington Brick and Tile Co., Box
110, Galesburg

Lake

National Brick Co., 3150 W. Touhy
Ave., Chicago 45
Pickard, Inc., Corona Ave., Antioch
Regal China Co., Antioch

LaSalle

The Conco-Meier Co., R.R. Lowell,
Tonica
Illinois Valley Minerals Co., Box
303, Ottawa (clay)
Laclede-Christy Co., Ottawa
(Div. H. K. Porter Co., Inc.,
Refractories Division, 2500
First National Bank Bldg., Pitts-
burgh 22, Pennsylvania)
Arthur Mart, Box 149, Streator (clay)

LaSalle, continued

Matthiessen & Hegeler Zinc Co.,
9th and Sterling Sts., LaSalle
Streator Brick Co., Streator (Div.
Hydraulic-Press Brick Co., 705
Olive St., St. Louis, Mo.)
Streator Drain Tile Co., W. 10th
St., Streator

Livingston

Diller Tile Co., Chatsworth

Logan

Stetson China Co., 999 N. Kicka-
poo St., Lincoln

Madison

Alton Brick Co., Box 394, Alton
Richards Brick Co., Edwardsville
Western Fire Brick Co., 16th St.
& Madison Ave., Granite City

Marshall

Hydraulic-Press Brick Co., 809
Lehmann Bldg., Peoria 2

McDonough

Baird Clay Mine, Colchester (clay)
Booz and Co., P.O. Box 92, Macomb,
(clay)
Colchester Brick and Tile Co.,
Colchester
Illinois Edison Porcelain Co., 510
N. Pearl St., Macomb
Kayson's Inc., Macomb
Macomb Pottery Co., Macomb
Frank Nelson, Colchester (clay)
J. R. Purtscher, 1410 W. Aire Ave.,
Peoria (clay)

McHenry

American Terra Cotta Corp., Box
225, Crystal Lake

Menard

Springfield Clay Products Co., Box
362, Springfield

Mercer

Hydraulic-Press Brick Co., Shale
City (901 Putnam Bldg., Daven-
port, Iowa)

Pulaski

Star Enterprises, Inc., 212 E. York,
Cassopolis, Michigan (clay)

Rock Island

Van-Packer Co., Carbon Cliff (Div.
of The Flintkote Co., P.O. Box
306, Bettendorf, Iowa)

St. Clair

Hill Brick Co., 51st St. & St. Clair
Ave., East St. Louis
Hydraulic-Press Brick Co., Casey-
ville Twp. (705 Olive St., St.
Louis 1, Mo.)

Saline

Harrisburg Brick and Tile Co.,
Harrisburg

Sangamon

Poston Brick & Concrete Products
Co., 2600 E. South Grand Ave.,
Springfield
Springfield Clay Products Co., Box
362, Springfield

Scott

Alsey Brick & Tile Co., Alsey

Tazewell

The Morton Pottery Co., 315 W.
Jefferson, Morton
Peoria Brick & Tile Co., Box 515,
Peoria 1

Vermilion

General Refractories Co., Danville
(1520 Locust St., Philadelphia
2, Pa.)
Western Brick Co., P.O. Box 591,
Danville

Warren

Western Stoneware Co., 521 W.
6th Ave., Monmouth

Will

General Refractories Co., Joliet &
Rockdale (1520 Locust St.,
Philadelphia 2, Pennsylvania)

SAND AND GRAVEL PRODUCERS

Adams

Blick's Construction Co., Quincy

Adams, continued

Quincy Sand Co., Front and Broad-
way, Quincy

Alexander

H. H. Halliday Sand Co., 224 10th
St., Cairo

Bond

Greenville Gravel Co., Inc., Green-
ville
W. D. Lindsey, Keyesport
Cyril Munie, Pocahontas

Boone

Christensen & Smith, Capron
Vincent Spencer Sand & Gravel Co.,
120 Burgess St., Belvidere

Brown

T. F. Hollembeak & Son, Mt.
Sterling
Bridgewater & Gaskill, Versailles

Bureau

Floyd Clapp, Walnut
Hansen Brothers, New Bedford
Frank J. Poscharscky, Wyand
Sand & Gravel, Wyand
Swanson Brothers, Box 84, Princeton
Western Sand and Gravel Co.,
111 N. Spalding St., Spring
Valley

Calhoun

West Point Sand Plant, Ellis Inman,
Batchtown

Carroll

Oliver Heisler, Mt. Carroll
Howard Nelson, Lanark
Nicol Sand Co., Albert A. Nicol,
Savanna
Rein & Dahl, Box 120, Stoughton,
Wisconsin

Champaign

Gibson Brothers, 407 N. Edwin St.,
Champaign
Mahomet Sand & Gravel Co., Inc.,
Box 65, Urbana
W. H. Troike & C. R. Plankenhorn,
Box 327, Mahomet
West Champaign Gravel Co., 103½
N. Neil St., Champaign

Clark

Barthelemy & Lawrence, R.R. 2,
Box 120-A, West Union
Stanfield Gravel Co., R.R. 2, West
Union

Clinton

Lindsey Gravel Pit, Keyesport

Coles

Martin's Sand & Gravel, 527 9th
St., Charleston
Pinnell's Gravel Pit, Ashmore

Cook

Chicago Gravel Co., 343 S. Dear-
born St., Chicago 4
Worth Sand & Gravel Co., 7545
W. 111th St., Worth

Crawford

Lawrence Bowman, 140 E. Lamotte
St., Palestine
William J. Wyke, Box 11, Robinson

Cumberland

A. B. C. Gravel Co., Greenup
Casey Stone Co., 104 W. Alabama,
Casey

DeKalb

Kirkland Gravel Yard, Kirkland
Elmer Larson, Inc., 320 Prospect
St., DeKalb
Donald Tyrrell, R.R. 2, Sycamore

DeWitt

H. M. Rickgauer, P.O. Box 66,
Clinton

DuPage

Elmhurst-Chicago Stone Co., 400
W. 1st St., Elmhurst
John Purnell, Geneva Road, West
Chicago

Fayette

Don L. Burtschi, Vandalia

Ford

W. V. Williams, Box 287, Gibson
City

Fulton

Liverpool Materials Co., 1265 N.
Main St., Canton

Gallatin

Miller Sand & Gravel Co., Carmi

Grundy

Material Service Corp., 300 W.
Washington, Chicago 6

Henry

Collinson Brothers, 2405 27th St.,
Moline
Oberlaender Sand Co., 519 $\frac{1}{2}$ 15th
St., Moline
Schadt Service Co., 623 First Ave.,
Silvis

Jo Daviess

Dubuque Sand & Gravel Co., Du-
buque, Iowa

Kane

Fox Valley Gravel Co., Box 423,
R.R. 3, Aurora
Warren W. Krahn, 724 South St.,
Dundee
Material Service Corp., 300 W.
Washington St., Chicago 6
L. G. Raymond, Big Rock
Ed Schneider, R.R. 3, Box 72, Elgin
Warren T. Sellen, 344 Cedar St.,
Aurora

Kendall

Elmer Larson, Inc., Box 383, 320
Prospect St., DeKalb

Knox

L. K. Bandy Construction Co.,
Maquon

Lake

Atlas Sand & Gravel Co., Liberty-
ville
Carl L. Barthel, Antioch
Big Hollow Sand & Gravel Co., Inc.,
R.R., Ingleside
Consumers Co., 79 W. Monroe St.,
Chicago 3
Leo J. Fox, Antioch
Vern Thelen, Fox Lake

LaSalle

Roy Labolle, Somonauk
LaSalle County Portable, Inc.,
Bridge St., Ottawa

LaSalle, continued

Moline Consumers Co., 314 15th
St., Moline
Edward O. Olson, Box 625, Newark
River Industries Inc., Box 641,
Seneca
Spicer Gravel Co., 445 Union St.,
Marseilles
Western Sand & Gravel Co., 111 N.
Spalding St., Spring Valley

Lawrence

Gregory Gravel Co., Lawrenceville
H & B Gravel Co., Inc., 12th and
Adams Sts., Lawrenceville
Vincennes Gravel Co., Inc., Vin-
cennes, Indiana

Lee

Butler Sand & Gravel Co., Nelson
C. C. Macklin, Steward
Rock River Ready Mix, 206 Brinton
Ave., Dixon

Livingston

Estep Gravel Co., 604 E. Oak St.,
Fairbury
Valley View Dirt & Gravel Co.,
R.R. 1, Manville

Logan

Lincoln Sand & Gravel Co., Box
67, Lincoln

Macon

Decatur Sand & Gravel Co., 700 S.
Taylor Ave., Decatur
Kirks Gravel Pit, R.R. 6, Decatur
Macon County Sand & Gravel Co.,
R.R. 8, Decatur
H. M. Rickgauer, Box 66, Clinton

Madison

Alton Sand Co., Front & Henry St.,
Alton
Gary Dredging Co., 958 Union St.,
Alton
Mississippi Lime Co., 7 Alby St.,
Alton
Thompson Asphalt Co., 6th & Mc-
Cambridge Sts., Madison

Marshall

Consumers Co. of Illinois, 79 W.

Monroe St., Chicago 3
Vernon Henry, LaRose

McHenry

Consumers Co. of Illinois, 79 W.
Monroe St., Chicago 3
Crystal Lake Trucking & Excava-
ting Co., R.R. 14, Box 184,
Crystal Lake
Garden Prairie Stone Co., Inc.,
104 S. State St., Marengo
Floyd Greibel, Marengo
Grove Gravel & Excavating Co.,
Fox River Grove
McHenry Sand & Gravel Co., Inc.,
606 Front St., McHenry
Wayne Nolan, R.R., Harvard
Sylvester Tonyan, R.R. 1, Box 371,
McHenry

McLean

Heidelberg & McDowell, Box 49,
Downs
John Howes, R.R. 1, Bloomington
McGrath Sand & Gravel Co., Inc.,
Lincoln
Rowe Construction Co., 1523 W.
Market St., Bloomington

Ogle

Byron Sand & Stone Co., Byron
E. C. Kolpak, Oregon
Kutz Brothers Co., Forreton
McGrath Sand & Gravel Co., Inc.,
Lincoln
Howard Nelson, Lanark
Rockford Blacktop Construction Co.,
1615 Westchester Ave., Rockford
Shilling's Gravel Pit, R.R. 2, Mil-
ledgeville
Valley Ready Mix, Inc., Oregon
Floyd Weigle, Shannon

Peoria

Chillicothe Gravel Co., 915 N. 4th
St., Chillicothe
R. D. Chipman, Farmington
Construction Materials Co., 100
Cass St., Peoria
Coogan Gravel Co., 903 Jefferson
Bldg., Peoria
McGrath Sand & Gravel Co., Inc.,
Lincoln

Peoria, continued

Stevens, Inc., 2423 W. Farmington Road, Peoria 5

Pike

O. A. Booth & Sons, Nebo
Victor Callender, 127 N. Clinton St., Pittsfield
Missouri Gravel Co., 314 15th St., Moline

Randolph

Southern Illinois Sand Co., Inc., Chester

Rock Island

Blackhawk Aggregates, Inc., 230 4th St., West, Milan
Builders Sand & Gravel Co., 104 Western Ave., Davenport, Iowa
Moline Consumers Co., 314 15th St., Moline

St. Clair

Missouri-Illinois Material Co., 2100 N. Wharf, St. Louis 6, Missouri

Sangamon

Buckhart Sand & Gravel Co., Inc., R.R., Mechanicsburg
Clear Lake Sand & Gravel Co., Box 398, Springfield
Springfield Sand & Gravel Co., R.R. 7, Springfield

Scott

Homer E. Grady, Exeter

Shelby

Corley Gravel, Cowden
Henry Cummings, Sullivan
Hanfland Sand & Gravel Co., Shelbyville

Stephenson

Rein & Dahl, Inc., Stoughton, Wisconsin

Tazewell

Hoffer Construction Co., Inc., Box 106, East Peoria 8
McGrath Sand & Gravel Co., Inc., Lincoln

Tazewell, continued

C. A. Powley, Route 2, Washington
Spring Lake Sand & Gravel, Manito

Union

Bittle & Emrick, Anna

Vermilion

Blakeney Gravel Co., Route 4, Danville
Lawrence Clifton, Westville
Lewis & Co., Perrysville Road, Box 38, Danville
Jesse Speranza, Route 1, Westville
Elton A. Wagner Co., 505 N. Gilbert St., Danville

Wabash

Allendale Gravel Co., Route 1, Allendale
Dunobar Sand & Gravel Co., Box 97, Belmont
Mt. Carmel Sand & Gravel Co., Box 209, Mt. Carmel

White

Eastwood Sand & Gravel Works, Grayville
Frashier Brothers, Maunie
Miller Sand & Gravel Co., Carmi

Whiteside

Anderson Ready Mix, 903 Avenue D, Rock Falls
Ernest Johnson, Box 67, Lyndon
Max Lawrence, RFD, Prophetstown
Midwest Sand & Gravel Co., Sterling
Vernon Schrader Gravel, Route 2, Sterling
Selander & Jones, Prophetstown
William L. Taber, 513 Market St., Prophetstown

Will

Elmhurst-Chicago Stone Co., 400 W. First St., Elmhurst
Chicago Gravel Co., 343 S. Dearborn St., Chicago 4
Material Service Corp., 300 W. Washington, Chicago 6
C. H. Monk, 211 Hunter St., Joliet

Winnebago

Anderson Sand & Gravel Co., 519
E. State St., Rockford
Consumers Co., 79 W. Monroe St.,
Chicago 3

Illinois-Wisconsin Sand & Gravel
Co., 228 N. LaSalle St., Chi-
cago 1

John Kelly, Roscoe

Larson Brothers Sand & Gravel,
1822 S. 5th St., Rockford

Northwest Gravel Co., 2340 Main
St., Evanston

Porter Bros., Roscoe

Sahlstrom & Sons, 217 Peoples Ave.,
Rockford

South Beloit Sand Co., 228 N. La-
Salle St., Chicago 1

Woodford

Wood-Mar Construction Co., 611
State St., Eureka

PORTLAND AND MASONRY CEMENT PRODUCERS

LaSalle

Alpha Portland Cement Co., LaSalle
(15 S. Third St., Easton, Pa.)

Lehigh Portland Cement Co., Ogles-
by (Young Bldg., 718 Hamilton
St., Allentown, Pa.)

Marquette Cement Mfg. Co., Ogles-
by (20 N. Wacker Drive, Chi-
cago 6)

Lee

Medusa Portland Cement Co., Dixon
(Cleveland, Ohio)

LIME PRODUCERS

Adams

Marblehead Lime Co., Marblehead
(300 W. Washington St., Chi-
cago 6)

Menke Stone & Lime Co., 828 Ver-
mont St., Quincy

Cook

Marblehead Lime Co., South Chi-
cago, Thornton (300 W. Wash-
ington St., Chicago 6)

Cook, continued

The Standard Lime & Cement Co.,
LaGrange (2000 1st National
Bank Bldg., Baltimore 3, Md.)

St. Clair

Aluminum Co. of America, E. St.
Louis (1501 Alcoa Bldg., 425
Sixth Ave., Pittsburgh 19, Pa.)

SILICA SAND PRODUCERS

LaSalle

The American Silica Sand Co., Inc.,
402 Central Life Bldg., Ottawa

E. C. Bellrose Sand Co., 1220 W.
Madison St., Ottawa

General Silica Corp., Milwaukee,
Wisconsin

Illinois Silica Sand Co., Box 36,
Ottawa

Illinois Valley Minerals Co., Box
303, Ottawa

LaSalle Silica Co., Box 437, Ottawa

Ottawa Silica Co., Box 437, Ottawa

George M. Pendergast & Co., 226
S. First St., Milwaukee, Wis.

Standard Silica Co., Box 407, Ottawa

Wedron Silica Co., 135 S. LaSalle
St., Chicago 3

Ogle

National Silica Co., Oregon

NATURAL BONDED MOLDING SAND PRODUCERS

Bureau

Frank J. Poscharscky, Wyand Sand
& Gravel, Wyand

Carroll

Albert A. Nicol, Nicol Sand Co.,
Box 209, Savanna

Fayette

Mulberry Grove Sand Co., Charles
D. Lutz & Sons, Mulberry Grove

Henry

Oberlaender Sand Co., 519½ 15th
St., Moline

Kankakee

Portage-Manley Sand Co.,
Essex

Winnebago

South Beloit Sand Co.,
228 N. LaSalle St.,
Chicago 1

TRIPOLI AND GANISTER PRODUCERS

Alexander

Ozark Minerals Co., 807½ Wash-
ington Ave., Cairo (tripoli)
Tamms Industries, Inc., 228 N.
LaSalle St., Chicago 1 (tripoli)
Western Fire Brick Co., 16th &
Madison, Granite City (ganister)

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CIRCULAR 257

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